

Application No. 10/774,197
Amendment "A" dated December 7, 2004
Reply to Office Action mailed October 15, 2004

REMARKS

Applicants and Applicants' attorney express appreciation to the Examiner for the courtesies extended during the recent interview held on November 30, 2004. Reconsideration and allowance of the above-identified application are now respectfully requested. Claims 1, 3-18 and 20-30 are pending, wherein claims 1, 20 and 21 have been amended, claims 2 and 19 have been cancelled, and new claims 29 and 30 have been added.

Independent claim 1 was amended to specify that the "ligation cover" covers "substantially all of an upper surface of the bracket base when the ligation cover is in the closed, ligating position" and that "the hinge does not significantly bias the ligation cover such that at least a portion of the cover is able to selectively rotate about the hinge over a substantial angle of rotation between the open, non-ligating position and the closed, ligating position".¹ Support for the amendments to claim 1 is found in originally filed claims 2 and 19, now cancelled. Neither Christoff nor Fletcher teach or suggest a ligation cover that is able to "cover[] substantially all of an upper surface of the bracket base when the ligation cover is in the closed, ligating position". Claim 1 is therefore patentable over the combined teachings of Christoff and Fletcher.

Kurz, on the other hand, discloses a "an integral resilient cover plate which extends over the slot and which is angularly self-biased against the base". Col. 2, lines 25-26; col. 3, lines 51-53. Because this self-biasing feature is critical to the intended operation of the Kurz bracket, Kurz teaches away from a ligation cover attached by a hinge that "does not significantly bias the ligation cover", as recited in amended claim 1. Moreover, because of the manner in which the cover plate of Kurz is attached to the base, it does not appear that the cover plate is "able to selectively rotate about [a] hinge over a substantial angle of rotation between [an] open, non-ligating position and [a] closed, ligating position", as further recited in amended claim 1. See Figure 3, which shows the bracket of Figure 1 "in an open position"; col. 2, lines 48-49; col. 3, lines 53-58. Rotating the cover plate of Kurz "over a substantial angle of rotation" would likely break off the cover plate from the base or permanently bend or fatigue the cover plate so as to destroy or materially alter the ability of the cover plate to be self-biased toward the closed position. For this additional reason, claim 1 as amended is contrary to the teachings of Kurz. Because claim 1 recites features that are contrary to the intended function and operation of the

¹ Claim 1 was also amended to specify that an arch wire is not a required element.

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"cover plate" of Kurz, a person of skill in the art would not have been motivated to modify Christoff, Fletcher and Kurz to obtain an orthodontic bracket having the combination of features recited in amended claim 1. *See* MPEP § 2143.01.

Independent claim 20 was alternatively amended to recite that "no portion of the ligation cover remains directly over the arch wire slot" when in "an open, an open, non-ligating position relative to the bracket base".² Figure 3 of Kurz shows that the cover plate remains over the arch wire slot when "in an open position". *See* col. 2, lines 48-49; col. 3, lines 53-58. This is likely because the cover plate is rigidly and strongly self-biased toward the closed position. Rotating the cover plate of Kurz so that "no portion of the ligation cover remains directly over the arch wire slot" would likely break off the cover plate from the base or permanently bend or fatigue the cover plate so as to destroy or materially alter the ability of the cover plate to be self-biased toward the closed position. For this reason, claim 20 as amended is contrary to the teachings of Kurz. Because claim 20 recites features that are contrary to the intended function and operation of the "cover plate" of Kurz, a person of skill in the art would not have been motivated to modify Christoff and Kurz to obtain an orthodontic bracket having the combination of features recited in amended claim 20.

Claim 21 was amended to specify that an arch wire is not a required element, which has a broadening effect. As originally filed, claim 21 recited a "film hinge" that "does not significantly bias the ligation cover toward the closed, ligating position when in the open, non-ligating position". As explained above, an important feature of the Kurz bracket is the ability of the cover plate to be self-biased toward the closed position. For this reason, claim 21 as originally filed is contrary to the teachings of Kurz. Because claim 21 recites features that are contrary to the intended function and operation of the "cover plate" of Kurz, a person of skill in the art would not have been motivated to modify Christoff and Kurz to obtain an orthodontic bracket having the combination of features recited in amended claim 21.

Claim 22 as originally filed recites that "no portion of the ligation cover remains directly over the arch wire slot" when in "an open, an open, non-ligating position". As discussed above, Figure 3 of Kurz shows that the cover plate remains over the arch wire slot when "in an open position". *See* col. 2, lines 48-49; col. 3, lines 53-58. Rotating the cover plate of Kurz so that

² Claim 20 was also amended to specify that an arch wire is not a required element.

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"no portion of the ligation cover remains directly over the arch wire slot" would likely break off the cover plate from the base or permanently bend or fatigue the cover plate so as to destroy or materially alter the ability of the cover plate to be self-biased toward the closed position. For this reason, claim 22 as originally filed is contrary to the teachings of Kurz. Because claim 22 recites features that are contrary to the intended function and operation of the "cover plate" of Kurz, a person of skill in the art would not have been motivated to modify Christoff and Kurz to obtain an orthodontic bracket having the combination of features recited in amended claim 22.

Newly added independent claim 29 alternatively claims a bracket base "comprising a plurality of arch wire slots" and a ligation cover that (i) "at least partially covers two or more of the arch wire slots" when in "a closed, ligating position" and that (ii) "cover[s] substantially all of an upper surface of the bracket base when the ligation cover is in the closed, ligating position". None of Christoff, Pletcher, Kurz or any of the other cited art teach or suggest the combination of elements recited in new claim 29. Nor does U.S. Patent No. 5,269,681 to Degnan, which was cited in related application Serial No. 09/952,826 (now U.S. Patent No. 6,733,286).

Finally, newly added independent claim 30 alternatively claims a bracket having a ligation cover hingedly attached to a bracket base and "a latch mechanism for selectively locking the ligation cover over the bracket base in the closed, ligating position, the latch mechanism providing the ligation cover with a single locked position relative to the bracket base". Support for this limitation is found in Figures 13-15, 17-24B, and 26, each of which shows a ligation cover hingedly attached to a bracket base and a latch mechanism that provides the ligation cover with a single locked position relative to the bracket base. Christoff discloses an orthodontic bracket in which the central inventive feature is the inclusion of a "dual mode latch" that is "movable to any one of three positions:

- 1) A fully opened position for insertion or removal of an archwire;
- 2) A first closed position wherein the latch actively engages the archwire for passive orthodontic therapy; and
- 3) A second closed position wherein the latch is spaced from the archwire for passive orthodontic therapy."

Application No. 10/774,197
Amendment "A" dated December 7, 2004
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Col. 4, lines 23-35. It would therefore be contrary to the intended function and principle mode of operation of the bracket disclosed in Christoff to modify the bracket so that the latch mechanism "provid[es] the ligation cover with [only] a single locked position relative to the bracket base" (emphasis added). According to MPEP § 2143.01, it is never obvious for a proposed modification to render a disclosed device unsuitable for its intended purpose or to change its principle of operation. For this reason, Applicants submit that claim 30 is patentable over Christoff, either alone or in combination with any other art of record.

The Office Action rejects claims 1-28 over the claims of U.S. Patent Nos. 6,607,383, 6,616,444 and 6,659,766 under the judicially created doctrine of obviousness-type double patenting. Without acquiescing in this rejection, Applicants submit herewith a Terminal Disclaimer in order to overcome this rejection.

In view of the foregoing, Applicants submit that the claims as now presented are in allowable form. In the event that the Examiner finds remaining impediment to a prompt allowance of this application that may be clarified through a telephone interview, the Examiner is requested to contact the undersigned attorney.

Dated this 8th day of December 2004.

Respectfully submitted,


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